



Outreach and Messaging

- Pete is finalizing Oct/Nov Activity Update. Diana is drafting Dec/Jan updates.
- Mike will follow-up w/Elaine on formatting for activity updates – 508 compliance.
- Linda Geiser/FS will join our calls representing the FS air side for Ann Acheson.
- Web Site – Mike is in the process of updating the website. Opening section on model verification and research. Susan will provide editing assistance.

Future Presentations

- Weather Update Presentation in March, Pete looking for participants: FENC, ARA, etc.
- Tim/Next Generation of Air monitoring Presentation.

Mixing Height Call – Presentation on the 20th

- NWS to brief us on fire weather & smoke updates within the NWS.
- Looking at different methods used for estimating mixing height (Holzworth, and methods that can improve the Holzworth method).
 - Holzworth assumes dry atmosphere; Stull used when moisture is present in the atmosphere. The latter is a little more sensitive and generally gives users greater heights. Both produce similar results in dry settings.
 - Richardson # - a simple ratio of convective portion vs. the wind shear.
 - Presentation will be posted on SmoC website.

Large Fire Conference – SmoC presence

- Pete submitted an abstract – can make it a SmoC abstract if we want.
- ‘The Voices of RX Fire’ – Rx fire history w/visual, oral, & written media.
- Josh submitted FRAMES/SmoC training abstract.

NWCG Business

- Funding submittals for projects will be one month earlier than usual—due end of April.
- Ideas include the Estimated Smoldering Potential project & similar JFSP projects.
- Cindy encourages proposals for projects that tie into the periphery of JFSP i.e. implementation of JFSP scientific findings.
- Opportunity for SmoC with definitions related to fire but have implications for smoke.
- RX-410 in the 310-1 Opportunity – Courses will be modified fall/2014.
 - Can notify NWCG in early March via a form if RX410 is valuable for more than FS/BLM rx2's. Right time for making the course a broader NWCG requirement.
 - Fire Use and Fuels Subcommittees saw results of SmoC reports on RX-410. SmoC should reach out to these groups.
 - Pushback may come from states; non-state audience will probably be receptive.
 - Most comprehensive task book requirements for LTAN vs. RXB2.



NWCG – All chairs meeting – Issues SmoC wants to discuss

- The meeting starts with a dialogue on Yarnell, the fatalities, and challenges we face.
- Where are we collectively on the topic of smoke exposure?
 - Follow-up assessment by AZ OSHA on Yarnell: Decision making failure may have been attributed to smoke exposure.
 - Rim Fire: Exposure monitors turned off so personnel could sleep during the night due to constant monitor alarms.
- Draft NEI BP –work w/Rx fire councils (surveys) & advise state foresters 2014 = NEI yr.
- ARA training May 5-9 in Boise, FS contributed funding. SmoC has a small number of slots for pre-identified personnel volunteering for ARA positions this upcoming fire year.
- Transportation Safety Efforts moving forward with the SmoC Training Subcommittee.
- International Smoke Symposium – continue annually. Ability to offer virtual conference – especially for fed & state agencies.
- Bring up committee collaboration – Chairs or vice-chairs should meet to share current activities – could lead to collaboration on similar projects.
- All Chairs meeting topics from Gary: Mixing Height Methodology, Fire Danger Station Standards - need to go to instrumentation capability, i.e. temperature standard should not have been made more tolerant due to critical nature of temperature in weather events, Estimated Smoldering Potential, EBAM/ESAMPLER Station Standards, Guidance that was not accepted for the Incident Pocket Guide & Fireline Handbook concerning SmoC's efforts on Personnel Exposure and Transportation Corridor Safety, ARA as a technical specialist position in ROSS, For the Data Committee—what data does SmoC need to be captures for emissions, amendments to Situation Reports by GACCs, 209's, FORS, etc.
- Facilitating collaboration: NWCG Committees are process driven—SmoC should present examples where the project & committees benefit from engaging in various process-based issues to move the project forward rather than deal with review burden when project is nearly complete, such as the Fireline Handbook.
- Potential for ARA to open communications with fire chiefs who are dealing with fuels and fuel treatments on a municipal and local level, especially within the WUI.

Report from NWCG All-Chairs Meeting

- 53 glossary terms were given to SmoC—Have a vested interest in ~12 of them.
 - Wildfire not on list, but wildland fire, prescribed fire, and escaped prescribed fire are.
 - Definition of wildfire will be coordinated by OWDC.
- NWCG will disband the policy committee.
- IRWIN information transfer system is rolling out.
- WFSTAR has a firefighter refresher on exposure coming out. No plan to guide responses dealing with smoke exposure—Equipment and risk management committee to deal with this. Mark & Pete reviewed—98% of the language used in the scripting came from Smoke Exposure guidebook the SmoC working group developed.
- IChiefs now affiliated w/NWCG—local fire chiefs may express interest in smoke.
- Activity update will be changed to 'meeting minutes' and formatted to be 508 compliant.
 - 310-1 will be re-issued this fall. Mark/OWDC: Need to send request by mid-March: Suggestion for RXB2s to have RX410 as across-the-board requirement.
- Forms moved to a FEMA format—Not much documentation on air issues from FEMA.



- Incident Management structure will likely shift to 3 levels; Complex, Extended, & Initial attack. Structure of these teams is still being organized. Contact is Evans Quo.

JFSP - Ideas for Future Projects

- Compile & prioritize Ideas for Future Projects to Mike, Pete. Susan sent out ideas 1/16.
- Rx/WF trade-offs & Greenhouse gas CEQ tradeoffs.
- Emission reduction techniques and potential effectiveness for greenhouse gases and other non-particulate pollutants.
- Smoldering combustion and the consumption of organic soil and deep forest duff (see attached write-up by Gary).
- Next gen air monitoring & how they're applicable to personnel exposure/basecamp monitoring.

Smoke Monitoring Cache

- Smoke monitoring cache—Need enough devices during fire season and utilizing the FFES numbers for ordering the units (dialogue with BLM and others to develop long & short term strategies to maintain this cache).
 - Erin Law (FS Reg. 1) is working with smoke measurement from the monitoring devices used this last fire season.
- Mike's draft BP for NRDC brief – 'Where there's Fire there's Smoke' is out for review.

Status of Next Generation Air Monitoring

<https://sites.google.com/site/airsensors2014/home> Workshop in NC set for June.

NRDC Draft Briefing Paper "Where there's Fire, There's Smoke"

- Assumption satellite detected smoke had impacts on the surface. Led to conclusion that ~2/3 of US population was affected by wildfire smoke. Mike drafted a response.

NEI 2014 BP – plan for review and dissemination

Give this a read-through before finalizing.

Subcommittee Report-outs

Smoke Technical Topics

- Smoke Management Guide work is continuing.

Smoke Training

- Next call 3/5 - Smoke Exposure workbook/guidebook under development w/working group then to SmoC Training Subcommittee for wrap-up & sharing w/WFSTAR.
- Transportation Safety workbook ready for sharing.
- Smoke Exposure Guidebook – very detailed. Needs a rigorous review to receive NWCG stamp on the front cover. Progress choices: 1. DRAFT product with SmoC ownership. 2. Give to WFSTAR.
- Could use IRPG submittal for CO in discussions.
- Should put as a draft smoke product – important to get this information out there.
- Several tools for assessing smoke induced fog are in progress—require different inputs. Are they available to ARAs?



**NWCG Smoke Committee
February 2014 Activity Update**



Smoke Managers

- Have a call scheduled for Monday 3/3. Will have RX fire council guests on the call.

Round Robin Topics

- Southeast air managers conference call/Mike – they have been taking a look at the 2011 NEI fire emissions & are recommending states should submit wild, Rx, and Ag fire based on state records, and ask EPA to use CIMP fuels emission factors instead of the ones in Bluesky that were developed for the west. Really had an issue with VOCs being a couple orders of magnitude higher, mostly from GA data.
- Pete and Diana to discuss collaboration with the Southern Fire Exchange.
- Claudia distributed information for 2014 Southwest Smoke Workshop to committee.
- NEI 2014 BP – plan for review and dissemination.
- SmoC working with the Southeast Consortia to distribute BSMP information.



SmoC Suggestions for JFSP FY2015 Funding Opportunity Notice (FON)			
Priority A=high, B=medium, C=low	Name	Description	Phone call Discussion
A,A,A,A,B,B,B,B	Smoldering combustion and the consumption of organic soil and deep forest duff	<p>As awareness of the impacts of organic soil loss on carbon sequestration, emissions and public health/safety increases, the need to develop a broader understanding of the dynamics of fire danger and combustion in organic soils and deep forest duff becomes more evident. The consumption of organic soils is a widespread concern as its emission impacts dwarfs those posed by the consumption of surface fuels. We propose that the long term goal of future work is to incorporate organic soil as a fuel type into the Fire Danger Rating System (NFDRS).</p> <ul style="list-style-type: none"> objectively assess the size and scope of this issue develop a number of separate regional models to predict/ estimate soil consumption development of equipment needed to monitor soil and hydrological conditions develop applications utilizing L-band radar and radiometer measurements to track soil moisture 	
A,B,B,B,B,A,A,A	Rx Fire vs Wildfire Trade-offs	Carbon emissions vs sequestration	
A,C,B,A,A,B	Natural fire (wildfire) impacts on visibility at Class I areas.	Natural fire impacts are factored into the 20% worst days at a Class I area. It has been suggested these events should not be included in the calculation in the 20% worst days, but instead looked at as	- Does this have utility based on the timing of 5 year EPA submittals? <i>response</i> - These are based on 5 years after plans are approved, not a set date.



NWCG Smoke Committee
February 2014 Activity Update



		<p>exceptional events. At this time the exceptional event rule does not cover wildfire impacts like visibility. The question at hand is using IMPROVE and Fire activity data to: 1) identify days when wildfire impacts Class I monitors and, 2) identify days when Rx fires impact Class I monitors. Long range transport, assess the contribution of fires emissions on the monitor--OC 50% smoke, 50% other sources. In removing the days of wildfire impacts contributed to the 20% worst days, recalculate the 20% worst days. Evaluate RX impacts to visibility impacts at Class I areas and their contribution to the 20% worst days. Have smoke management programs helped in reducing visibility impacts?</p>	<ul style="list-style-type: none">- separating these natural fires from rx fire impacts would make the impact of rx fire on class one areas more clear.
C,C,C,C,C,C	Polyethylene on Prescribed Burn Piles	<p>Background: Polyethylene (PE) has been used by landowners and land managers to keep their piles of forestry slash residue dry from rain and snow for many years. The rationale is that a dry pile will burn much faster, more efficiently and produce less particulate and other chemical emissions than a wet pile.</p> <p>Lab tests in recent studies have documented that PE does not significantly contribute additional toxins to the atmosphere that are more unhealthy than the woody material emissions from forest debris burning.</p> <p>However, these studies did not mimic the use of PE as done in the field. Rather the tests mixed the PE with the woody material to test emissions rather than the practice of covering the woody material.</p> <p>Proposal: Conduct a field or lab study that replicates actual prescribed pile burning using</p>	<ul style="list-style-type: none">- Scope, this is used in Northwest, Southwest, perhaps other areas of the country as well.- Looking at the tradeoff between emissions coming from wet piles vs. piles kept dry with plastic.- This could possibly be rolled into the ERT Discussion



NWCG Smoke Committee
February 2014 Activity Update



		different sizes and thicknesses of PE to cover dry piles and compare it to piles that are uncovered and soaked with moisture. Measure the amount and type of emissions from each pile. Compare emissions from a dry uncovered pile vs. a dry covered pile with PE.	
A,A,A,A	Support implementation of increased Rx fire activity with 1) no net increase or 2) decreases in emissions	Evaluate the rate of use of existing emission reduction techniques (ERTs) by linking to reporting of accomplished acres. Develop projections of alternate scenarios of future rates (multiple ERTs at the same time) of use and analyze with air quality modeling. Identify areas with more/no change/less air quality impacts, especially for greenhouse gases, ozone and particulate matter (PM).	<ul style="list-style-type: none">- Looking at ERTs outlined in the Smoke Management Guide and how much emissions their use prevents, also how effective are the use of multiple ERTs?- What role could the ERTs play to offset total emissions goals while still being able to increase rx fire activity.- Very important topic for looking at CEQs for greenhouse gases. Agencies can't speak to reduction of greenhouse gases with these techniques because the research is not out there right now.- Cindy advice: it would be good to develop the description of this more with the bullet points above [Action Item Pete and Mark for 2/28]
C,C,	Assist with improved air quality metrics for decision-making on long duration fires with multiple objectives large (>1,000 acres) fires	Analyze patterns of larger wildland fires classified as "long duration fires" and apply those patterns to historic larger fires' records. Analyze spatial, temporal, fuel loading and consumption patterns and effect on emissions. Develop ranking system for larger multiple objective fires and use modeling/empirical analysis methods to assess the frequency, location, and fire activity thresholds for exceptional events and other air quality impacts from larger fires.	<ul style="list-style-type: none">- We can pull this one off the list of things to move forward- Cindy, some of the recent science in the last year may address this.- Cindy: Even if this is a low priority leave it here to remind Cindy to check and see how this ties into projects that are already funded, especially in projects under the climate change topic.
na	Assess ERT's for effectiveness in GHG		<ul style="list-style-type: none">- Merge this with the other ERT topic



**NWCG Smoke Committee
February 2014 Activity Update**



	or other pollutants (beyond PM) including use of multiple ERT's simultaneously.		
A,A,A,B,A,B	Develop and publish a methodology/template for general/common use to bound ranges of future fires for fire and air quality planning communities	Literature review and analysis of existing methods to project fire activity and changes in future emissions on CAA planning timescales (nominally 10 years). Develop explicit consensus methodology and template via workshops and survey for air quality and fire planning communities. Use existing ground-based tracking and remote sensing data, to transparently estimate future fire scenarios in a reproducible manner, allowing the methodology to be applied via the template now as well as over future planning timescales (subsequent 10-year intervals) to account for gradual climate change effects. Test a range of future scenarios using modeling to assess frequency and location of exceptional events and other air quality impacts from fires at various time and space scales for Ozone and PM NAAQS.	<ul style="list-style-type: none"> - This aims at developing a common template to develop normal, average fire scenarios under different climate situations. Develop a framework that can be used for current fire and slowly apply it to the future of what fire may look like on the landscape - This would be a combination of workshops and briefing papers to develop sound fire representation methods. - Cindy comment- there is probably room to integrate this, so please leave this in. Maybe there are other process that this could apply to. - This is less of a call for new research, and more of a call to incorporate and apply existing research into a consistent methodology
A,A,A,	Assess NGAM (Next Generation Air Monitoring) for application in personnel exposure, base camp monitoring or field monitoring of public impacts for wildfire and prescribed fire.		<ul style="list-style-type: none"> -Ed- This one strikes me as one that fits well as a longer term project, flesh out more what techniques of concern and what the timeframe for this is. - Pete- there is a lot of innovation and change going on right now, from many groups. New monitors are being used right now in the field with no guidance or performance evaluation.